

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY EXAMINATION REPORT (PCT Article 36 and Rule 70)

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| Applicant's or agent's file reference<br><b>P12842/OLL</b>   | <b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416) |  |
| International application No.<br><b>PCT/EP 03/07099</b>  | International filing date ( <i>day/month/year</i> )<br><b>03.07.2003</b>   | Priority date ( <i>day/month/year</i> )<br><b>12.07.2002</b> |
| International Patent Classification (IPC) or both national classification and IPC<br><b>H04M1/725</b>  |  |  |
| Applicant<br><b>SONY ERICSSON MOBILE COMMUNICATIONS AB et al.</b>  |  |  |
| <p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p><input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of 2 sheets.</p>   |  |  |
| <p>3. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> <li>I <input checked="" type="checkbox"/> Basis of the opinion</li> <li>II <input type="checkbox"/> Priority</li> <li>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</li> <li>IV <input type="checkbox"/> Lack of unity of invention</li> <li>V <input checked="" type="checkbox"/> Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</li> <li>VI <input type="checkbox"/> Certain documents cited</li> <li>VII <input type="checkbox"/> Certain defects in the international application</li> <li>VIII <input type="checkbox"/> Certain observations on the international application</li> </ul> |  |  |
| Date of submission of the demand<br><br><b>16.01.2004</b>  | Date of completion of this report<br><br><b>11.10.2004</b>   |  |
| Name and mailing address of the international preliminary examining authority:<br><br><div style="display: flex; align-items: center;"> <div>             European Patent Office<br/>             D-80298 Munich<br/>             Tel. +49 89 2399 - 0 Tx: 523656 epmu d<br/>             Fax: +49 89 2399 - 4465           </div> </div>  | Authorized Officer<br><br><b>Gavin Alarcon, O</b><br><br>Telephone No. +49 89 2399-7012                                      |  |



**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. **PCT/EP 03/07099**

**I. Basis of the report**

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

**Description, Pages**

1-12 as originally filed

**Claims, Numbers**

1-10 received on 15.06.2004 with letter of 10.06.2004

**Drawings, Sheets**

1/8-8/8 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY  
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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

|                               |             |      |
|-------------------------------|-------------|------|
| Novelty (N)                   | Yes: Claims | 1-10 |
|                               | No: Claims  |      |
| Inventive step (IS)           | Yes: Claims |      |
|                               | No: Claims  | 1-10 |
| Industrial applicability (IA) | Yes: Claims | 1-10 |
|                               | No: Claims  |      |

2. Citations and explanations

**see separate sheet**

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Reference is made to the following documents:

- D1: WO 02 41607 A (SENDO INTERNAT LTD) (2002-05-23)
- D2: US 2001/044330 A1 (ARNOLD THOMAS A) (2001-11-22)
- D3: EP-A-0 409 640 (NIPPON ELECTRIC CO) (1991-01-23)
- D4: WO 99 66697 A (QUALCOMM INC) (1999-12-23)
- D5: WO 01 37229 A (WILDCARD COMM CANADA INC) (2001-05-25)

**INDEPENDENT CLAIM 1**

- 2. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 does not involve an inventive step in the sense of Article 33(3) PCT.
- 2.1 The document D1 is regarded as being the closest prior art to the subject-matter of claim 1, and discloses (the references in parentheses applying to this document):
  - a radio communication terminal (Fig. 2, "10" and "mobile telephone", page 5, lines 26-27) comprising:
    - a user output interface (Fig. 2, "display 18"); and
    - a terminal core (Fig. 2, "mobile telephone core 16") which includes electronic circuits with data processing means ("processor", "memory storage", page 7, lines 8-11) for controlling terminal functions (see also page 4, line 29 to page 5, line 2, "embedded applications program"); and
    - a cover connector (Fig. 2, "connector 28" and page 6, lines 8-11) connected to the data processing means; and
    - a releasable cover (Fig. 2, "front portion 12", "rear portion 14" and page 5, lines 26-30, "exchangeable cover") carrying
      - an auxiliary functional member (Fig. 2, "electronic memory 24", page 3, lines 11-14, "data or functionality contained within the cover") and
      - a terminal connector (Fig. 2, "contact 26" and page 6, lines 5-8) connected to the auxiliary functional member (page 6, lines 5-7).

In the terminal of D1, both the cover connector (Fig. 2, "connector 28") and the terminal connector (Fig. 2, "contact 26") are devised to provide communicative

connection ("a communication interface [...] may be provided") between the auxiliary functional member ("electronic memory 24") and the data processing means ("application program of the core", page 6, lines 5-25 and page 4, lines 21-25) when the cover is attached to the terminal core (page 3, lines 11-13", page 4, lines 4-7).

- 2.2 The terminal claimed in claim 1 differs from the one disclosed in D1 in that:
- i) the terminal comprises a user input interface and a system connector; and
  - ii) the system connector is disposed on a main PCB carrying the data processing electronic circuits whereas the cover connector is specifically disposed on an additional PCB supporting the terminal keyboard and being connected to the electronic circuits.
- 2.3 Regarding difference i), those skilled in the art know that a normal mobile phone comprises a user input interface, i.e. a keyboard or keypad, and a system connector for the connection of external modules such as headsets.
- 2.4 With respect to difference ii), document D1, Fig. 2 shows that the cover connector ("28") is located on the keyboard area of the mobile phone. The fact that this area is specifically comprised by a PCB different from the main PCB of the mobile phone is just a mere constructional detail which does not involve any inventive skill, see for example document D5. This document discloses (page 18, line 23 to page 19, line 24 and Figs. 3a to 3j) a mobile phone which is similar to the one in D1 and wherein a cover connector ("electrical contact 19", "for connecting a cellular transceiver module") is located on an additional PCB ("docking plate 21") attached to a main body ("the [...] docking capabilities of the base unit allow [...] modules to be configured to the base unit without requiring modification of the base unit") whereas a system connector ("headset I/O point 65") is connected to the main body (base unit 50").
- 2.5 Due to the reasons stated in paragraphs 2.3 and 2.4 above, the solution proposed in claim 1 of the present application cannot be considered as involving an inventive step (Article 33(3) PCT).

#### INDEPENDENT CLAIM 9

3. The same reasoning applies to the subject-matter of the independent claim 9 (see section "Additional Remarks" below), which is therefore considered not inventive.

**DEPENDENT CLAIMS 2-8 AND 10**

4. Dependent claims 2-8 and 10 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step. The reasons are as follows:

Claims 2-5 and 10: the connection between mobile phones and releasable modules by means of conductive connection pads and resilient connectors such as leaf springs or pogo pins is well known in the art, see for example document D3, column 4, line 27 to column 5, line 21 or document D4, page 3, line 22 to page 4, line 9 and page 5, lines 10-30.

Claims 6-8: the terminal of D1 comprises front and rear portions which can be attached to the terminal core by means of attaching means (Fig. 2, "12", "14" and page 5, line 26 to page 6, line 17).

**Additional remarks**

5. Claims 1 and 9 do not meet the requirements of Art. 6 PCT for the following reasons:
- 5.1. Although claims 1 and 9 have been drafted as separate independent claims, they relate effectively to the same subject-matter. The aforementioned claims therefore lack conciseness and as such do not meet the requirements of Article 6 PCT.
- 5.2. The fact that the auxiliary functional member is adapted to provide the mobile phone with an auxiliary function (see description, page 7, lines 7-9) is considered an essential feature of the application. Since independent claims 1 and 9 do not contain this feature, they do not meet the requirement from Art. 6 PCT in combination with Rule 6.3(b) PCT that any independent claim must contain all the technical features essential to the definition of the invention.
- 5.3. In claim 1, it is not clear whether "an attached cover" is the same as "a releasable cover", whether the "communicative connection" is provided **between** "the auxiliary functional member of [...]" **and** "the data processing means of [...]" and whether the "terminal keyboard" is the same as the "user input interface". The same applies to claim 9.

## CLAIMS

1. A radio communication terminal (40), comprising
  - a user input and output interface (18,19);
  - 5 - a terminal core (1) including a main terminal PCB (10) carrying electronic circuits (11) with data processing means for controlling terminal functions, and a system connector (50);
  - a cover connector (17) connected to the data processing means; and
  - a releasable cover (30) carrying an auxiliary functional member (32) and a
  - 10 terminal connector connected to the auxiliary functional member; wherein said cover connector and terminal connector are devised to provide communicative connection for the auxiliary functional member of an attached cover to the data processing means of the terminal core,
  - characterised in** that said terminal core comprises an additional keyboard PCB
  - 15 (54) supporting a terminal keyboard (19), connected to said electronic circuits (11), and wherein said cover connector (17) is disposed on said additional PCB.
2. The radio communication terminal as recited in claim 1, **characterised in** that the cooperating cover connector and terminal connector on one of said connectors
- 20 comprises conductive connection pads, whereas the other of said connectors comprises a biased resilient connector element (151,160).
3. The radio communication terminal as recited in claim 2, **characterised in** that said biased resilient connector element is a pogo-pin connector (150,151).
- 25 4. The radio communication terminal as recited in claim 3, **characterised in** that said biased resilient connector element is a leaf spring connector (160).
5. The radio communication terminal as recited in any of the previous claims 2 to
- 30 4, **characterised in** that in said conductive connection pads are devised in the cover connector disposed on the terminal core.
6. The radio communication terminal as recited in any of the previous claims, **characterised in** that in said cover comprises a shell member (30) devised to cover
- 35 a portion of a front face of the terminal core.
7. The radio communication terminal as recited in any of the previous claims, **characterised in** that in said cover comprises a shell member (20) devised to cover a portion of a rear face of the terminal core.

8. The radio communication terminal as recited in any of the previous claims, **characterised in** that said terminal core and said cover are provided with cooperating attaching means (36,27) for releasable attachment of the cover.

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9. A terminal core (1) for a radio communication terminal (40) having a user input and output interface (18,19), for use with a releasable cover (30) carrying an auxiliary functional member (32) and a terminal connector connected to the auxiliary functional member, said terminal core comprising

- 10 - a main terminal PCB (10) carrying electronic circuits (11) with data processing means for controlling terminal functions, and a system connector (50); and  
- a cover connector (17) connected to the data processing means; wherein said cover connector and terminal connector are devised to provide communicative connection for the auxiliary functional member of an attached cover to the data processing  
15 means of the terminal core,

**characterised in** that said terminal core comprises an additional keyboard PCB (54) supporting a terminal keyboard (19), connected to said electronic circuits (11), and wherein said cover connector (17) is disposed on said additional PCB.

- 20 10. The radio communication terminal as recited in claim 9, **characterised in** that the cover connector comprises conductive connection pads.